

### **REMARKS/ARGUMENTS**

Reconsideration of this application is requested. Claims 26 and 27 will be pending in the application subsequent to entry of this Amendment.

The claims have been amended in order to direct them to preferred aspects of the disclosure. More specifically, new amended claim 26 is closely based on Ink Formulation B (Example 4) and specifies that the composition consists essentially of:

about 4.5 wt% of a colorant (page 7, line 16 and page 13, final line);  
a dispersant system providing about 0.1 wt% a dispersant synergist (Solsperse™ 5000, page 11, line 4;  $0.2\% \times 56.25\% = \text{about } 0.1 \text{ wt\%}$ ) and about 1 wt% of a low molecular weight hyperdispersant (Solsperse™ 24000, page 11, line 1;  $2.0\% \times 56.5\% = \text{about } 1 \text{ wt\%}$ );  
about 46 wt% of dipropylene glycol diacrylate ( $64.9\% \times 56.5\% + 9.435\% = \text{about } 46 \text{ wt\%}$ );  
about 22 wt% propoxylated(2) neopentyl glycol diacrylate (SR-9003, page 11, line 16);  
about 7 wt% of ethoxylated(6) trimethylol propane triacrylate (SR-499, page 11, line 11;  $12.45\% \times 56.5\% = \text{about } 7 \text{ wt\%}$ );  
about 7 wt% of ethoxylated(3) trimethylol propane triacrylate (SR-454, page 11, line 8;  $12.45\% \times 56.5\% = \text{about } 7 \text{ wt\%}$ );  
about 3 wt% dipentaerythritol hexaacrylate;  
about 9 wt% photoinitiator (page 8, line 6; Irgacure 369:1700:819, page 11, line 13); and  
about 0.3 wt% tetra-acrylate-modified polydimethylsiloxane surfactant having fifteen dimethylsiloxane groups (Addid® 300, page 11, line 19);

and that said composition causes the loss of no more than 5% of the nozzles in an ink jet print head after 750 prints and provides a hole to area ratio of no more than 0.007 (previous claim 4).

Claim 27 is the same as previous claim 2 but dependent from new claim 26.

Claims 1-25 have been withdrawn without disclaimer or prejudice to continuing applications directed to the subject matter of these claims.

The sole issue raised in the outstanding Official Action is the patentability of the then-pending claims over a combination of three references.

The new claims presented above are inventive based on the comments below.

The Examiner's response to previous arguments states that "the applicant must present data that is commensurate with the scope of the claim" and that "Claim 23 is very broad, it does not specify the amounts or the type of colorant or UV-curable organic diluents".

Applicants have attempted to address the Examiner's concerns by amendment to claim a very specific composition for which good results and comparative data with compositions outside the scope of the claim are shown in the application.

The Examiner objected that the previous claims were not inventive over Johnson et al (W099/29787) in view of Wacker Silicones Corp and optionally Yamaguchi et al (WO01/21717).

The compositions of Johnson et al are very different from the specific composition now claimed.

In particular, the compositions of the examples of Johnson et al do not include the reactive monomers or surfactant specified in Claim 26 and do not contain the colorant, dispersant components and photoinitiator in the required amounts. Note that Johnson et al teaches generally that 0.05 to 3% pigment is preferred (page 7), not about 4.5 wt% colorant.

The Examiner has referred to general disclosures in Johnson et al and Yamaguchi et al of certain of the reactive monomers of Claim 1. As applicants have stated in their previous response, these disclosures occur separately in long lists of possible reactive monomers, with no disclosure of the particular combination of materials of current Claim 26.

The Examiner commented in this regard that "the monomers listed in the prior art represent a finite number of choices and absent a showing of criticality, the combination of the reactive monomers is well within the ordinary skill of a person in the art".

In response to this, applicants point out that a comparison of Ink Formulations B and C shows that the particular combination of reactive monomers is critical to the good results of the specific composition now claimed.

The results presented in the original specification accompanied by the executed declaration signed by the inventors at the time of filing have significant evidentiary weight, comparable to the weight given to an executed declaration. It is well established by the Federal Circuit that "the examiner must consider comparative data presented in the specification which is

intended to illustrate the claimed invention in reaching a conclusion in regard to the obviousness of claims." In re Margolis, 785 F.2d 1029, 228 U.S.P.Q. 1123, 1129 (Fed. Cir. 1993).

Ink Formulation B (claimed) gave exceptionally good printing results: no nozzle loss after 750 prints, a good qualitative visible appearance and a quantitative hole to area ratio of 0.0064 (Table 2).

Ink Formulation C (not claimed) is discussed in Example 5. Ink Formulation C is Ink Formulation B modified by the addition of 4 wt% of the reactive monomer Actilane® 251 (an aliphatic urethane acrylate additive, page 16, lines 19-20). Actilane® 251 is used in the examples of Johnson et al, where it is taught to be essential (Example 4 of Johnson et al).

Ink Formulation C gave a quantitative hole to area ratio of 0.012, almost twice as high as Ink Formulation B and outside the scope of current Claim 26. Ink Formulation C also gave one nozzle loss after 750 prints (Table 2).

Thus, modifying the claimed composition by addition of a small amount of a reactive monomer taught in Johnson et al to be advantageous caused a significant deterioration in printing results. Applicants think this makes it clear that the particular claimed combination of reactive monomers is critical.

For completeness, applicants reiterate that Comparative Inks A to H and Ink Formulation D, which differ from Ink Formulation B in having a different surfactant or no surfactant, also did not match the exceptionally good printing results of Ink Formulation B. None of these compositions met the requirements of Claim 26 with regard to both hole to area ratio and nozzle loss. This further confirms that good printing results are closely linked to the claimed composition. While other compositions might be acceptable as inks, they do not match the performance of Ink Formulation B for hole to area ratio and nozzle loss.

Reconsideration and favorable action are solicited. Should the examiner require further information, please contact the undersigned.

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 14-1140.

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Respectfully submitted,

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